



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,434	09/16/2005	Masahiro Nakanishi	0033-0987PUS1	5775

2292 7590 03/12/2009
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

MURDOCH, CRYSTAL A

ART UNIT	PAPER NUMBER
----------	--------------

2628

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

03/12/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/525,434	Applicant(s) NAKANISHI, MASAHIRO	
	Examiner Crystal Murdoch	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

I. Response to Arguments

Applicants' response to the last Office Action, mailed 7 October 2008 has been entered and made of record.

The rejections of claim 12 are withdrawn in view of Applicant's cancellation of this claim.

The objections to the drawings are withdrawn in view of Applicant's arguments.

The objections to the specification, including the Abstract, are withdrawn in view of Applicant's remarks and amendments.

The objection to claim 14 for the misspelling is withdrawn in view of Applicant's amendment.

The rejection of claims 1-11, 13, and 15-17 under 35 USC §112, second paragraph regarding lack of antecedent basis is withdrawn in view of Applicant's amendments. However, Applicant's amendments have failed to overcome the lack of antecedent basis previously indicated for claims 14 and 18-41. Therefore, these claims remain rejected under 35 USC §112, second paragraph.

Examiner also maintains the rejection of claims 14 and 15 under 35 USC §112, second paragraph, for being indefinite because this issue was not addressed by argument or amendment. These claims are still considered indefinite.

The rejection of claims 30-41 under 35 USC §101 is withdrawn in view of Applicant's amendment to tangibly embody the functional descriptive material on a computer readable medium.

However, the rejection of claims 18-29 under 35 USC §101 are maintained for the reasons presented in the Office Action below.

Applicant's amendments to independent claims 1, 4, 18, 29-30, and 41 require new grounds of rejection. New grounds of rejection are presented in the Office Action below.

Applicant's arguments with respect to claims 1-44 have been considered but are moot in view of the new grounds of rejection.

II. Claim Objections

Claim 30 is objected to because it recites "identifying the attributes" in line 7. This limitation lacks antecedent basis. Appropriate correction is required.

III. Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2628

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14-15 and 18-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Lacking Antecedent Basis

Claim 14 recites the limitation “the preceding portion” in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claims 18 and 30 recite the limitation “the reproduction mode” in lines 1-2 of claim 18 and line 2 of claim 30. There is insufficient antecedent basis for this limitation in these claims.

Claims 20 and 32 recite the limitation “the range” in line 7 of claim 20 and line 8 of claim 32. There is insufficient antecedent basis for this limitation in these claims.

Claims 29 and 41 recite the limitation “the reproduction mode” in line 2 of claim 29 and line 3 of claim 41. There is insufficient antecedent basis for this limitation in these claims.

Claim 30 recites the limitation “in which to reproduce the contents” in line 3. There is insufficient antecedent basis for “the contents” in this claim.

Claim 41 recites the limitation “in which to reproduce in a reproduction apparatus the contents” in line 3. There is insufficient antecedent basis for “the contents” in this claim.

B. Indefinite

Claim 14 requires, “... switching between said reproduction modes in order to reproduce, in said contents reproduction part, a succeeding portion of said contents next to the portion that is not appropriately reproduced in said contents reproduction part during reproduction of the preceding portion prior to said portion that is not appropriately reproduced in said contents reproduction part when in said contents reproduction part, *said contents cannot be appropriately reproduced in the reproduction mode that has been switched by said control part* (emphasis added).” The claim is indefinite because it does not clearly indicate which portion of “said contents” cannot be appropriately reproduced in the reproduction mode that has been switched by said control part, seeming to suggest that *none* of said contents can be appropriately reproduced.

Claim 15 is similarly indefinite because it seems as though all of said contents cannot be appropriately reproduced in the reproduction mode that has been switched by said control part.

Claims 14 and 15 will be interpreted as switching the reproduction mode from a first mode required to render a preceding portion of said contents to a second mode required to render a succeeding portion of said contents, wherein said first mode cannot appropriately reproduce the succeeding portion of said contents, and said second mode cannot appropriately reproduce the preceding portion of said contents.

IV. Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

A. Claims 18-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 18-29 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory “process”

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

Art Unit: 2628

under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claims 18-29 recite a series of steps or acts to be performed, the claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example, the steps of the method, (i.e. the recognition step and the determination step) do not explicitly or inherently require the use of an apparatus or machine. They also do not transform any underlying subject matter to a different state or thing.

There are two corollaries to the machine-or-transformation test. First, a mere field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent eligible. This means the machine or transformation must impose meaningful limits on the method claim's scope to pass the test. Merely reciting that the method is for reproducing contents in a reproduction apparatus does not impose meaningful limits on the scope of the claim. Second, insignificant extra-solution activity will not transform an unpatentable principle into a patentable process. This means reciting a specific machine or a particular transformation of a specific article in an insignificant step,

such as enabling the contents to be reproduced in the reproduction apparatus, is not sufficient to pass the test. Therefore, claims 18-29 do not qualify as statutory subject matter.

V. Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

A. Claims 1-8, 13-20, 22-25, 29-32, 34-37, and 41-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakayama et al. (US Patent Number 5,831,765, herein referred to as Nakayama).

Regarding independent claim 1, Nakayama teaches a contents reproduction apparatus comprising:

- A contents reproduction part which can reproduce contents from contents data in a plurality of reproduction modes including two-dimensional and three-dimensional display (See Nakayama: Fig. 5B, Item 174; Col. 8, Lns. 42-46, “The image signal is input from a video board 170a of the computer 170 to an image reproducing portion 174 of an image display X. The image reproducing portion 174 drives a

Art Unit: 2628

liquid crystal panel which is not illustrated in FIGS. 5A and 5B, on the basis of the image signal.”),

- Wherein the contents data comprises at least object data of an object in the contents (See Nakayama: Fig. 5A, Item 171; Col. 8, Lns. 30-38, “FIGS. 5A and 5B show an example construction in which image signal including both of 2-D and 3-D images as well as an information showing which one of the separated transparent electrodes 160a should be applied voltage (hereinafter referred to as an information of barrier position), as an information showing regions of diffusion, are input from a computer 170, and regions in a dispersed type liquid crystal panel 171 in which diffusing effect works is partially created on the basis of the information of barrier positions.”);
- A recognition part which recognizes attributes of the object included in the contents by analyzing the object data associated with the object (See Nakayama: Col. 9, Lns. 5-7, “To be concrete, the information of barrier positions is coded in the computer 170 and provided to the image display X by RS232C.”);
- A determination part that determines the reproduction mode in which to reproduce the contents (See Nakayama: Fig. 5B, Item 173; Col. 9, Lns. 7-10, “The interface circuit 173 of the image display X decodes

the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172.”) on the basis of:

- The attributes of the object that have been recognized in said recognition part (See Nakayama: Fig. 5B, Item 173; Col. 9, Lns. 7-10, “The interface circuit 173 of the image display X decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172.”), and
- One or more predetermined conditions for content reproduction (See Nakayama: Col. 9, Lns. 54-57, “(4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time.”); and
- A control part which controls switching between said plurality of reproduction modes (See Nakayama: Fig. 5B, Item 172; Col. 9, Lns. 10-12, “The driving circuit 172 controls on/off of the separated transparent electrodes 160a on the basis of the on/off information.”) on the basis of said reproduction mode that has been determined in said determination part (See Nakayama: Fig. 5B, Item 173; Col. 9, Lns. 7-10, “The interface circuit 173 of the image display X decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172.”),

- Wherein said contents reproduction part reproduces said contents in said reproduction mode that has been switched to by said control part (See Nakayama: Fig. 7; Col. 9, Lns. 13-38, wherein the contents is appropriately reproduced based on the encoded barrier positions transmitted to the interface circuit 173 for reproduction by the driving circuit 172.).

The scope of independent claim 4 is similar to the scope of independent claim 1. Thus, the rationale of independent claim 1 is incorporated herein. Nakayama teaches the limitations present in claim 4 which are not found in claim 1, namely:

- An acquisition part which acquires information concerning the reproduction mode of said contents from at least the object data in said contents data (See Nakayama: Col. 9, Lns. 5-7, “To be concrete, the information of barrier positions is coded in the computer 170 and provided to the image display X by RS232C.”); and
- A determination part that determines the reproduction mode in which to reproduce said contents on the basis of said information concerning the reproduction mode of said contents that has been acquired by said acquisition part (See Nakayama: Fig. 5B, Item 173; Col. 9, Lns. 7-10, “The interface circuit 173 of the image display X

decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172.”).

Independent claim 18 is similar in scope to independent claim 1. Thus, the rationale of independent claim 1 is applied to independent claim 18.

Regarding independent claim 29, Nakayama teaches a contents reproduction method for reproducing contents in a reproduction apparatus, wherein information concerning the reproduction mode has been added to said contents and wherein said reproduction mode is one of a plurality of reproduction modes including two-dimensional and three-dimensional display, wherein said contents comprise contents data that include at least object data of an object in the contents, comprising:

- A switching step of switching the reproduction mode of the reproduction apparatus (See Nakayama: Col. 9, Lns. 39-57, “In a case that a reproduced image signal changes from A to B and B to C as time passes, following measures can be thought of: (4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time.”) for reproducing said contents on the basis of said information concerning said reproduction mode that has been added to said

contents data, wherein said information is based on attributes of the object data in the contents (Examiner notes that the remainder of this limitation is intended use and is not accorded patentable weight.); and

- A reproduction step of reproducing said contents in the reproduction apparatus in said switched reproduction mode (See Nakayama: Fig. 8; Col. 9, Lns. 58-60, "FIG. 8 is a flow chart showing a process of the computer 170 in a case that reproduced images N=1 to N=99 are displayed according to above method (4).").

Independent claim 30 is similar in scope to independent claim 1. Nakayama teaches using a program to instruct the contents reproduction (See Nakayama: Fig. 5B, Item 172; Col. 9, Lns. 5-12, "To be concrete, the information of barrier positions is coded in the computer 170 and provided to the image display X by RS232C. The interface circuit 173 of the image display X decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172. The driving circuit 172 controls on/off of the separated transparent electrodes 160a on the basis of the on/off information."). Thus, the rationale of independent claim 1 is applied to independent claim 30.

Independent claim 41 is similar in scope to independent claim 29. Nakayama teaches using a program to instruct the contents

reproduction (See Nakayama: Fig. 5B, Item 172; Col. 9, Lns. 5-12, "To be concrete, the information of barrier positions is coded in the computer 170 and provided to the image display X by RS232C. The interface circuit 173 of the image display X decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172. The driving circuit 172 controls on/off of the separated transparent electrodes 160a on the basis of the on/off information."). Thus, the rationale of independent claim 29 is applied to independent claim 41.

Regarding claims 2 and 16, as they depend from claims 1 and 4, respectively, Nakayama teaches the control part controls the switching between said plurality of reproduction modes in the case where the predetermined condition is satisfied at a time of reproduction of said contents (See Nakayama: Col. 9, Lns. 54-57, "(4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time." The predetermined condition is time.)

Regarding claims 3 and 17, as they depend from claims 2 and 16, respectively, Nakayama teaches the predetermined condition includes a condition concerning time when said contents are reproduced (See Nakayama: Col. 9, Lns. 54-57, "(4) When the reproduced image changes

Art Unit: 2628

on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time.”).

Regarding claim 42, as it depends from claim 1, Nakayama teaches the contents data comprise animation data (See Nakayama: Col. 9, Lns. 54-57, “(4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time.”).

Regarding claim 43, as it depends from claim 42, Nakayama teaches said contents data comprise a plurality of key frames which are intermittently arranged in a chronological order of reproduction time, wherein each of said key frames include said object data corresponding to objects which comprise said key frames (See Nakayama: Col. 9, Lns. 54-57, “(4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time.”).

Regarding claim 5, as it depends from claim 4, Nakayama teaches:

- Said information concerning the reproduction mode of said contents includes reproduction mode information (See Nakayama: Figs. 5A-5B;

Art Unit: 2628

- Col. 8, Lns. 30-38, "FIGS. 5A and 5B show an example construction in which image signal including both of 2-D and 3-D images as well as an information showing which one of the separated transparent electrodes 160a should be applied voltage (hereinafter referred to as an information of barrier position), as an information showing regions of diffusion, are input from a computer 170, and regions in a dispersed type liquid crystal panel 171 in which diffusing effect works is partially created on the basis of the information of barrier positions.") for determining the reproduction mode in accordance with a reproduction time of said contents, and
- Said control part controls the switching between said plurality of reproduction modes (See Nakayama: Fig. 5B, Item 172; Col. 9, Lns. 5-12, "To be concrete, the information of barrier positions is coded in the computer 170 and provided to the image display X by RS232C. The interface circuit 173 of the image display X decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172. The driving circuit 172 controls on/off of the separated transparent electrodes 160a on the basis of the on/off information.") for each reproduction time unit of said contents during reproduction of said contents in said contents reproduction part, on the basis of said reproduction mode that has been determined by said determination part from said reproduction mode information (See

Nakayama: Col. 9, Lns. 54-57, “(4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time.”).

Regarding claim 6, as it depends from claim 4, Nakayama teaches

- Said information concerning the reproduction mode of said contents includes reproduction mode information (See Nakayama: Figs. 5A-5B; Col. 8, Lns. 30-38, “FIGS. 5A and 5B show an example construction in which image signal including both of 2-D and 3-D images as well as an information showing which one of the separated transparent electrodes 160a should be applied voltage (hereinafter referred to as an information of barrier position), as an information showing regions of diffusion, are input from a computer 170, and regions in a dispersed type liquid crystal panel 171 in which diffusing effect works is partially created on the basis of the information of barrier positions.”) for determining reproduction modes for each of a plurality of data groups corresponding to respective reproduction time units which are arranged along the time a time series of the time for reproduction, where said data groups form said contents, and
- Said control part controls switching between said plurality of reproduction modes (See Nakayama: Fig. 5B, Item 172; Col. 9, Lns. 5-

12, “To be concrete, the information of barrier positions is coded in the computer 170 and provided to the image display X by RS232C. The interface circuit 173 of the image display X decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172. The driving circuit 172 controls on/off of the separated transparent electrodes 160a on the basis of the on/off information.”) for each of said data groups that form said contents during reproduction of said contents in said contents reproduction part, on the basis of said reproduction mode that has been determined by said determination part from said reproduction mode information (See Nakayama: Col. 9, Lns. 39-41, “In a case that a reproduced image signal changes from A to B and B to C as time passes, following measures can be thought of.”).

Regarding claim 7, as it depends from claim 6, Nakayama teaches

- Said reproduction mode information is information for determining the reproduction mode of a particular data group on the basis of the attributes of one or more objects included in said particular data group (See Nakayama: Figs. 5A-5B; Col. 8, Lns. 30-38, “FIGS. 5A and 5B show an example construction in which image signal including both of 2-D and 3-D images as well as an information showing which one of the separated transparent electrodes 160a should be applied

Art Unit: 2628

voltage (hereinafter referred to as an information of barrier position), as an information showing regions of diffusion, are input from a computer 170, and regions in a dispersed type liquid crystal panel 171 in which diffusing effect works is partially created on the basis of the information of barrier positions.”),

- The contents reproduction apparatus further comprises a recognition part which recognizes said attributes of said objects by analyzing the object data associated with the object (See Nakayama: Col. 9, Lns. 5-7, “To be concrete, the information of barrier positions is coded in the computer 170 and provided to the image display X by RS232C.”), and
- Said determination part determines said reproduction mode of each of said data groups that form said contents on the basis of said attributes of said objects included in said data groups which have been recognized by said recognition part and said reproduction mode information (See Nakayama: Fig. 5B, Item 173; Col. 9, Lns. 7-10, “The interface circuit 173 of the image display X decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172.”).

Regarding claim 13, as it depends from claim 4, Nakayama teaches said acquisition part acquires said information concerning the reproduction mode of said contents from an external apparatus (See Nakayama: Col.

9, Lns. 5-7, "To be concrete, the information of barrier positions is coded in the computer 170 and provided to the image display X by RS232C.").

Claims 14 and 15 are interpreted as switching the reproduction mode from a first mode required to render a preceding portion of said contents to a second mode required to render a succeeding portion of said contents, wherein said first mode cannot appropriately reproduce the succeeding portion of said contents, and said second mode cannot appropriately reproduce the preceding portion of said contents. Nakayama teaches, "(4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time (See Nakayama: Col. 9, Lns. 54-57)." As Nakayama describes in column 9, lines 13-38, reproduced image A is a 3-D image that uses the whole display area, reproduced image B is 3-D in the upper half of the display area and 2-D in the lower half of the display area, and reproduced image C is 3-D on the left half of the display and 2-D on the right half of the display. Thus, the display mode used to display image A (barrier positions are "all off") cannot display the images of B and C without degradation in the 2-D portion of the images. The same is true for the display modes of B and C - the subsequent images cannot be properly displayed using the same barrier positions as

the previous image. Thus, Nakayama teaches the limitations required by claims 14 and 15.

Regarding claims 19 and 31, as they depend from claims 18 and 30, respectively, Nakayama teaches said predetermined condition for said contents to be reproduced is a condition that is stored the reproduction apparatus for reproducing said contents (See Nakayama: Col. 9, Lns. 54-57, “(4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time.”).

Regarding claims 20 and 32, as they depend from claims 18 and 30, respectively, Nakayama teaches:

- Said predetermined condition for said contents to be reproduced is a condition that is stored in the reproduction apparatus for reproducing said contents in accordance with the ability of said reproduction apparatus (See Nakayama: Fig. 7; Col. 9, Lns. 13-24, “As shown in FIG. 7, in a case of reproduced image A which is a 3-D image using whole display area, for example, an information of barrier positions ‘all off’ is coded as to ‘0000000000000000’, and the code is provided to the image display X by RS232C. The interface circuit 173 of the image display X decodes the code and gives decoded information to

the driving circuit 172. Accordingly, the driving circuit 172 controls the separated transparent electrodes 160a so that diffusing effect is off on whole display area, whereby an observer can recognize 3-D images using whole display area.”), and

- In said determination step, said reproduction mode of said contents is determined by giving priority to the ability of said reproduction apparatus to reproduce a specific type of object within the range of said condition (See Nakayama: Col. 9, Lns. 54-57, “(4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time.”).

Regarding claims 22 and 34, as they depend from claims 18 and 30, respectively, Nakayama teaches a registration step of registering information that indicates said reproduction mode of said contents that have been determined in said determination step by adding to the data of said contents (See Nakayama: Fig. 5B, Item 172; Col. 9, Lns. 5-12, “To be concrete, the information of barrier positions is coded in the computer 170 and provided to the image display X by RS232C. The interface circuit 173of the image display X decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172.

The driving circuit 172 controls on/off of the separated transparent electrodes 160a on the basis of the on/off information.”).

Regarding claims 23 and 35, as they depend from claims 22 and 34, respectively, Nakayama teaches a notification step of notifying said reproduction apparatus of said reproduction mode registered with the data of said contents (See Nakayama: Fig. 5B, Item 172; Col. 9, Lns. 5-12, “To be concrete, the information of barrier positions is coded in the computer 170 and provided to the image display X by RS232C. The interface circuit 173 of the image display X decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172. The driving circuit 172 controls on/off of the separated transparent electrodes 160a on the basis of the on/off information.” Receiving the signal is the notification step.).

Regarding claims 24 and 36, as they depend from claims 18 and 30, respectively, Nakayama teaches

- Said object is included in each of data groups, said data groups forming said contents and arranged in respective reproduction time units along a time series of the time for reproduction (See Nakayama: Col. 9, Lns. 54-57, “(4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier

positions on the basis of the time.” The time series corresponds to the time schedule.), and

- In said determination step, said reproduction mode is determined for each of said data groups that form said contents (See Nakayama: Fig. 5B, Item 173; Col. 9, Lns. 7-10, “The interface circuit 173 of the image display X decodes the code and gives on/off information of each separated transparent electrode 160a to the driving circuit 172.”).

Regarding claims 8, 25, and 37, as they depend from claims 7, 24, and 36, respectively, Nakayama teaches the determination part determines one reproduction mode in accordance with an order of priority of reproduction modes that have been preset when a plurality of reproduction modes are determined as said reproduction modes of said data groups on the basis of said attributes of said objects included in said data groups that have been recognized by said recognition part (See Nakayama: Fig. 5A, Item 171; Col. 8, Lns. 30-38, "FIGS. 5A and 5B show an example construction in which image signal including both of 2-D and 3-D images as well as an information showing which one of the separated transparent electrodes 160a should be applied voltage (hereinafter referred to as an information of barrier position), as an information showing regions of diffusion, are input from a computer 170, and regions in a dispersed type liquid crystal panel 171 in which diffusing effect

works is partially created on the basis of the information of barrier positions." The priority is apparent by the selection of an appropriate reproduction mode for the input image. Since the 3-D reproduction mode is selected when the input image is a 3D image, it follows that the stereoscopic display mode has a higher priority when the input image is a 3D image. Similarly, when the input image is a 2D image, the 2-D display mode is selected, suggesting it possesses a higher priority when the input image is 2D.).

VI. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

A. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama, as applied to claims 1 and 42-43 above, in view of Stern (US Patent Number 4,600,919).

Regarding claim 44, as it depends from claim 43, though Nakayama teaches displaying images that change over time to create an animation, Nakayama does not disclose generating intermediate frames between the

Art Unit: 2628

key frames at a time of reproduction. Nevertheless, Stern is cited for teaching:

In accordance with the method of the invention, a plurality of key frames are stored, each key frame including a common figure having one or more joints, and each joint having associated therewith a set of vectors defining a limb. Each joint is defined in each frame by operator-controllable parameters which determine the three-dimensional position, rotational orientation, and scale factors of a local coordinate system in which the limb vectors are placed. A plurality of in-between frames are generated, the in-between frames including the common figure having one or more joints and limbs corresponding to the joints and limbs of the common figure in the key frames. The parameters of the joints of the in-between frames are obtained by interpolating, in three dimensions, the position, rotational orientation, and scale factors of the corresponding joints of the key frames (See Stern: Col. 2, Lns. 16-35).

Therefore, the prior art includes generating "in-between" frames, as taught by Stern, to generate the frames existing in between the key frames, as well as a method of displaying images in 2-D and 3-D on a display device, as taught by Nakayama. Simply displaying the animation generated using the "in-between" frames of Stern on the 2-D/3-D display device of Nakayama would have been obvious since all of the elements were known in the art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Art Unit: 2628

B. Claims 9-11, 21, 26-28, 33, and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama, as applied to claims 4, 18, and 30, in view of Jones et al. (US Patent Number 6,798,406, herein referred to as Jones).

Regarding claims 9, 26, and 38, as they depend from claims 7, 24, and 36, respectively, Nakayama does not expressly suggest determining the reproduction mode according to an order of priority of objects that have been preset. Jones teaches

"... the distance [Z'] to the Zero Disparity Plane (ZDP) (also known as a 'virtual display', having width W', see FIG. 6) may be calculated. This is the distance from the camera to objects which will appear to be in the plane of the display once the photograph has been taken. Anything closer to the camera than Z' (object depth < Z') will appear to be between the display and the viewer. Anything further than Z' (object depth > Z') from the camera will appear behind the display (See Jones: Fig. 3; Col. 6, Lns. 58-65)."

Thus, objects with a depth value less than Z' will be closer to the viewer and have a correspondingly higher priority than objects having a depth value $\geq Z'$. It would have been obvious to one of ordinary skill in the art at the time of the invention to have prioritized the objects according to their depths to determine how the images of the objects would be displayed, as taught by Jones, with the 2-D/3-D display taught by Nakayama because depth is the feature that distinguishes 2D images from 3D images, and 3-D images cannot be properly reproduced without the use of object priority that determines occlusions of objects.

Regarding claims 10, 27, and 39, the rationale of claims 9, 26, and 38 is incorporated herein. The combination of Nakayama and Jones substantially teaches the invention as claimed. Specifically, Jones teaches the order of priority of said objects is the order of priority on the basis of deepness information that has been added to said objects (See Jones: Fig. 3; Col. 6, Lns. 58-65).

Regarding claims 11, 28, and 40, the rationale of claims 9, 26, and 38 is incorporated herein. The combination of Nakayama and Jones substantially teaches the invention as claimed. Nakayama teaches the order of priority of said objects is the order of priority on the basis of the order of alignment along the time series of the time for reproduction of said objects (See Nakayama: Col. 9, Lns. 54-57, “(4) When the reproduced image changes on the basis of a predetermined time schedule from A to B and B to C, the computer 170 measures time and create the information of barrier positions on the basis of the time.” The time schedule implies priority.)

Regarding claims 21 and 33, as they depend from claims 18 and 30, respectively, the rationale of claims 9, 26, and 38 is incorporated herein. The combination of Nakayama and Jones substantially teaches the invention as claimed. Jones uses depth values to identify a 3-D object (See Jones: Fig. 3; Col. 6, Lns. 58-65). To reiterate, an object that exists

entirely on the Zero Disparity Plane (object depth = Z') is two-dimensional and displayed appropriately. If the object has any other depth information (object depth < Z' or Z' < object depth), then the object is three-dimensional and is displayed appropriately. Thus, an object is displayed three-dimensionally in accordance with an indication of depth information for the object.

VII. Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal Murdoch whose telephone number is (571) 270-1043. The examiner can normally be reached on Mon. - Fri. 10:00 am to 6:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Crystal Murdoch/
Examiner, Art Unit 2628

/Kee M Tung/
Supervisory Patent Examiner,
Art Unit 2628